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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,465	10/17/2006	Minoru Goto	P30633	5796

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EXAMINER	
MICHALSKI, SEAN M	

ART UNIT	PAPER NUMBER
3724	

NOTIFICATION DATE	DELIVERY MODE
11/27/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/598,465	GOTO, MINORU	
	Examiner	Art Unit	
	SEAN M. MICHALSKI	3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5 and 6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5 and 6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKenna (US 1,438,540) and Komendowski (US 3,485,123) and Parmley ("Illustrated Sourcebook of Mechanical Components") and Aihara (US 5,771,765) .

Aihara discloses a chip removing device having a brush support body that pivotally supports a brush shaft having a brush which can come into contact with the side surfaces of the band saw blade, such that the brush is driven rotationally. (see column 6 lines 16-24). There being a rotating/driving mechanism provided (motor 47). There is a removing biasing unit which biases the bush support body (93 figure 7 or 71/75 figure 5) in a direction approaching or separating (see arrows in figure 7 at least) from the band saw blade, the brush and support body are provided such that they can rock in the direction approaching the band saw blade and a direction separating from the band saw blade (see pivot 85 figure 7). Aihara further discloses that the brush is sandwiched with substantially constant pressing force with respect to the blade (figures and column 2 lines 1-13, and 29 and 30). While the force is adjustable, based on the

position, the adjustability is used by the controller to urge with constant pressing force, as opposed to constant position (also column 10 lines 60+ and column 11 lines 1-9).

Aihara further discloses a wear detector (111, 117 figure 9A/B) that detects a reduction in diameter of the brush caused by wear as a variation of the brush support body in a direction approaching the band saw blade.

Aihara further discloses that the wear detector comprises a pushing lever (111 figure 9A) a "shaft" to be detected that is engaged with the pushing lever (the circle between 111 and 117) a detecting biasing unit which always brings the shaft into abutment against the pushing lever (115) and when 117 detects movement of the shaft (the circle) it is detecting the wear of the brush (19); as set forth in column 10 lines 35-45.

Aihara does not disclose using two brush support bodies, and two brushes, and two of everything.

McKenna teaches two brushes for cleaning a band saw, including two bevel gears driven by a common drive shaft (figure 2). The brushes are driven and both interact in the same direction as the band saw blade and operate together to clean the band saw blade.

Komendowski teaches a similar band saw blade cleaning apparatus with brushes on both sides of the blade (figures 2 and 3) which are spring biased to allow the brushes to be pivoted during operation of the saw in a natural way to ensure the cleaning of debris from the saw.

Parmley discloses the knowledge that would be common to a person of ordinary skill, that a universal joint can be used to allow for rotation of a driven shaft relative to a driving shaft.

It would have been obvious to one of ordinary skill in the art to have a driven pair of brushes (as taught by McKenna) which are pivotable and biased (as taught by Komendowski) since both of these features are known to engage brushes with band saw blades advantageously to effect a cleaning of the blade during operation. Since the addition of pivotability is desirous, as seen in Komendowski, a person of ordinary skill, seeking to add this ability to a pair of driven brushes would know of the expedient of a pair of universal joints each on a respective shaft, analogous to the shafts 13 and 14, figure 2 McKenna.

McKenna and Komendowski do not disclose a wear detector as set forth in the claims, but Aihara discloses a wear detector arrangement.

It would have been obvious to one of ordinary skill in the art to add a wear detector to a brush cleaning arrangement, so as to ensure an appropriate pressing force of the brush against the blade.

Regarding claim 6, Aihara does not disclose that the biasing unit comprises springs which provide for the brush support bodies to be biased, but Aihara does disclose positive control over the pivoting and positioning of the brush body used to clean a blade.

It would have been obvious to one of ordinary skill to use the biasing spring as seen in Komendowski(28) , and to use the wear indicator of Aihara to control the relative pressure of the brush by using a lever arrangement to modify a standard pressing force as set forth from the Komendowski spring (28).

In addition to showing the motivation or rationale that would lead one of ordinary skill to create the claimed combination of elements, another theory of obviousness is set forth below on the same set of facts.

Alternatively, It has been held that the combination of elements known in the prior art to be used in accordance with their known functions *is unpatentable as a matter of law* absent a showing that the combination has results which are *unexpectedly* advantageous over the prior art. Please see *Sakraida v. Ag Pro, Inc.* U.S. Supreme Court No. 75-110 425 US 273, 189 USPQ 449 (1976), Which states "patent[s] for combination that only unites old elements with no change in their respective functions withdraws what is already known into field of its monopoly and diminishes resources available to skillful men" and [a] patent [which] simply arranges old elements with each performing the same function it had been known to perform, although perhaps producing a more striking result than in previous combinations...are not patentable under standards appropriate for a combination patent"; also see *Anderson's Black*

Rock, Inc. v. Pavement Salvage Co., Inc. U.S. Supreme Court 396 US 57, 163 USPQ 673 (1969) which states "while the combination of old elements performed a useful function, it added nothing to the nature and quality of the radiant-heat burner already patented". Similarly here, each of the claimed elements is old, and known to perform the same function as in the present application.

The Supreme Court in *KSR International Co. v. Teleflex Inc. et al.* No. 04-1350, 550 U.S. _____(2007) affirmed both Sakraida and Anderson's requirement that to be patentable a combination needed to provide some synergistic effect. See Slip op. at 13 lines 3-19. Using known elements for their known functions is *as a matter of law not patentable*, since it removes resources available to skillful men, contrary to U.S. Const., Art. I §8, cl.8. which provides patent monopolies to promote the progress of useful arts. See Slip op. *KSR* at 24 lines 5-7.

Each of the elements wear indicator, biasing unit, universal joints, pair of brushes and pivotable brushes are known as seen in the cited prior art (above); their combination is unpatentable absent a showing that one of ordinary skill would be unable to effect their combination, or their combination provides unexpectedly good results (more than a duplicated effect).

As seen McKenna figure 1, the brush shafts are oriented in a forward and downward direction (forward being back of blade towards blade edge; downward being a relative reference with no frame of reference specified- downward could refer to opposite the direction of blade travel as seen). As seen in figures 1 and 2, the arrows indicate that the brushes are rotated *in the direction* of root to tip. This meets the

limitation "from a blade root side to a blade tip side" which indicates the direction of rotation (see figure 2).

In the alternative, selecting the pivot angle of blades is a routine design consideration. As seen in McKenna the brushes are at an oblique angle to the saw blade. As seen in Aihara the brush 19 rotates and overlaps from one side with the blade 15 (at least figure 7). Komendowski discloses a downward forward inclination of the brush shaft (see figure 2), but has the brushes driven by contact with the blade--so naturally they rotate from tip to root.

In view of the combined teachings of the prior art it would have been obvious to one of ordinary skill in the art to have the brush shafts be inclined forwardly and downwardly (explicitly taught by Komendowski) and be driven "root to tip" as taught by McKenna. Since the person of ordinary skill is effecting the combination of teachings of a driven brush with a biased brush, the orientation would be taught by the biased brush, and the drive *direction* would be taught by the driven brush. Alternatively, there are only two choices for how to direct the drive of the brushes as oriented as Komendowski, tip to root (as shown) and root to tip. There are only two choices for how to motorize the brush, which would be motivation enough to try both and see which worked better. It has been held that a motivation to try constitutes a motivation, unless it is shown that one of ordinary skill would have been unable to make the combination. See *KSR International Co. v Teleflex Inc. et al.* US Supreme Court, No. 04-1350, 550 U.S. ____ (2007), which states "a person of ordinary skill has good reason to pursue the known options within his of her technical grasp. If this leads to the anticipated success, it is

likely the product not of innovation but of ordinary skill and common sense." Slip op. at 17.

Additionally and alternatively, the inclination angle of the brush shafts is not a matter of invention. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust and determine an appropriate angle for the brush axles, since there are numerous different angles disclosed in the prior art (as seen above), since it has been held that discovering an optimum result of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Brush angle is obviously a result effective variable since it modifies the amount and direction of force applied to the blade, which would affect how effective the cleaning brush is and how fast it is worn (which are both readily measurable parameters).

3. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKenna (US 1,438,540) and Komendowski (US 3,485,123) and Parmley ("Illustrated Sourcebook of Mechanical Components") and Aihara (US 5,771,765) as applied to claims1-3, 5, and 6 above, and further in view of Whisler (US 2,978,001) and Evans (US 3,673,903).

McKenna / Komendowski / Parmley / Aihara are alleged to lack brush shafts which are angled downward and forward, and have brushes that rotate from root to tip. This is not conceded.

Whisler discloses brushes (27, 28) used to clean debris from a band saw blade (18) which are driven by motors having downward depending shafts (figure 1). It is not disclosed whether the brushes are driven in a root to tip manner or vice versa.

Evans additionally discloses a root to tip driven brush. See figure 3.

Whisler provides more information about the use of brushes and the level of ordinary skill in the art relative to whether the brush angle could be changed. Whisler states " The brushes 27 and 28 are individually driven from electric motors 29 and they are adjustably mounted on the frame 10 in a manner so that they may be canted or tilted as desired. " The specification of "canting or tilting" shows evidence that one of ordinary skill in the art knows about the desired effects of tilting a brush relative to a blade for varied effect.

In view of the combined teachings of the prior art it would have been obvious to one of ordinary skill in the art to have the brush shafts be inclined forwardly and downwardly (explicitly taught by Komendowski, and taught by the invitation in Whisler to vary the brush tilt and cant) and be driven "root to tip" as taught by McKenna and Evans. Since the person of ordinary skill is effecting the combination of teachings of a driven brush with a biased brush, the orientation would be taught by the biased brush, and the drive *direction* would be taught by the driven brush (Komendowski).

Alternatively, there are only two choices for how to direct the drive of the brushes as oriented as Komendowski, tip to root (as shown) and root to tip. There are only two choices for how to motorize the brush, which would be motivation enough to try both and see which worked better. It has been held that a motivation to try constitutes a

motivation, unless it is shown that one of ordinary skill would have been unable to make the combination. See *KSR International Co. v Teleflex Inc. et al.* US Supreme Court, No. 04-1350, 550 U.S. ____ (2007), which states "a person of ordinary skill has good reason to pursue the known options within his of her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." Slip op. at 17.

Additionally and alternatively, the inclination angle of the brush shafts is not a matter of invention. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust and determine an appropriate angle for the brush axles, since there are numerous different angles disclosed in the prior art (as seen above), since it has been held that discovering an optimum result of a result effective variable involves only routine skill in the art. *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Brush angle is obviously a result effective variable since it modifies the amount and direction of force applied to the blade, which would affect how effective the cleaning brush is and how fast it is worn (which are both readily measurable parameters).

Response to Arguments

4. Applicant's arguments with respect to claims 1-3, 5, and 6 have been considered but are moot in view of the new ground(s) of rejection.

Additionally it is noted that the bulk of arguments are directed to individual pieces of art as lacking various elements, whereas the rejection is in fact based upon a combination of the elements, in light of the level of ordinary skill in the art.

All the arguments are individually and wholly deemed non-persuasive.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN M. MICHALSKI whose telephone number is (571)272-6752. The examiner can normally be reached on M-F 7:30AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sean M Michalski/
Examiner, Art Unit 3724

/Kenneth Peterson/
Primary Examiner, Art Unit 3724